REGISTRATION OF FC 902 SUGARBEET GERMPLASM
(Reg. No. GP 41)

G. A. Smith and J. O. Gaskill

FC 902 is a sugarbeet breeding line developed by SEA, USDA in cooperation with the Beet Sugar Development Foundation and the Colorado State University Experiment Station.

FC 902 is multigerm diploid and is mostly self-fertile, segregating for genetic male-sterility (about 11% male-sterile plants). It has moderate resistance to both cercospora leaf spot, incited by Cercospora beticola, and the curly top virus. FC 902 is about equal to US 201 in curly-top resistance; its leaf spot resistance is somewhat less than that in US 201.

FC 902 was developed from the pool of three individual plant progenies derived from FC 901. The reciprocal topcross method was used to identify FC 901 genotypes with superior resistance to cercospora leaf spot. Results have indicated that FC 902 has good combining ability for sucrose content and sucrose yield. FC 902 flowers after short photothermal induction. FC 902 is recommended for use as a pollinator if resistance to leaf spot and curly top are needed.

Breeder seed is maintained by the SEA, USDA, and is provided to sugarbeet breeders in quantities adequate for reproduction upon written request. Requests for seed should be made to Dr. G. A. Smith, SEA, USDA, Crops Research Laboratory, Colorado State University, Fort Collins, CO 80523.

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REGISTRATION OF SIX SUGARBEET GERMPLASM LINES
(Reg. No. GP 42 — GP 47)

G. A. Smith and J. O. Gaskill

Six sugarbeet (Beta vulgaris L.) breeding lines were developed by SEA, USDA in cooperation with the Beet Sugar Development Foundation and the Colorado State University Experiment Station. These lines have resistance to cercospora leaf spot, incited by Cercospora beticola Sacc. These lines are diploid and flower after short photothermal induction.

FC 502/2 CMS (GP No. 45) is the cytoplasmic equivalent of FC 502/2. The line has been successfully in crosses with FC 504 to develop a CMS line that has shown excellent combining ability and heterosis resistance.

FC 506 (GP No. 46) is the monogerm pollen-fertile line of FC 506 CMS. The line has high resistance to cercospora leaf spot (about equal to that in US 201), and has green hypocotyl. The line was an advanced generation of the cross, FC 504 X FC 601, with special emphasis on improved seed production.

FC 506 CMS (GP No. 47) is the cytoplasmic equivalent of FC 506. Numerous tests have shown high percentages for hybrids having FC 506 CMS as the female parent. The leaf spot resistance of these six lines was superior in field tests under Cercospora-inoculated conditions. The lines are intended as parents to be developed for genes for resistance to cercospora leaf spot.

Breeder seed is maintained by the SEA, USDA, and is provided to sugarbeet breeders in quantities adequate for reproduction upon written request. Requests for seed should be made to Dr. G. A. Smith, USA, Crops Research Laboratory, Colorado State University, Fort Collins, CO 80523.

REGISTRATION OF FOUR SUGARBEET GERMPLASM LINES
(Reg. No. GP 48 — GP 51)

G. A. Smith and E. G. Ruppel

Four sugarbeet (Beta vulgaris L.) breeding lines were developed by the AR, SEA, USDA in cooperation with the Beet Sugar Development Foundation and the Colorado State University Experiment Station. These lines have high resistance to cercospora leaf spot, incited by Cercospora beticola Sacc., and the curly top virus. These lines are diploid and flower after short photothermal induction.

FC 604 (GP No. 48) is the monogerm, pollen-fertile maintainer line (type 0) of FC 604 CMS. This line was developed from 632028sl. It has moderate resistance to cercospora leaf spot and curly top and has shown good combining ability for sucrose content. The line is uniform in appearance and is mostly self-fertile, segregating for genetic male-sterility.

FC 604 CMS (GP No. 49) is a cytoplasmic equivalent of FC 604 CMS. The line was developed from a cross of 632028sl X FC 504. The line has been used in crosses with FC 504 to develop a CMS line that has shown excellent combining ability and heterosis resistance.

FC 605 (GP No. 50) is the monogerm, pollen-fertile line of FC 605 CMS. The line has high resistance to cercospora leaf spot, and has shown good combining ability for sucrose content. The line is uniform in appearance and is mostly self-fertile, segregating for genetic male-sterility.